

REMARKS

Claim 2 has been canceled and the subject matter has been incorporated into claim 1. Claim 1 has been amended to a manner more suited to U.S. practice and to highlight that the two parts that are moveable are part of an orthopedic joint (see Figure 1 of the application), and that the actuating unit is integrated into a walking aid (see, e.g., "10" in Figure 2). As explained on page 2 of the application, line 30 et seq., the actuating unit is preferably accommodated in the handgrip of the walking aid (see claim 3) and that a button is preferably positioned in the free end of the hand grip to allow the user to use his thumb to actuate the locking mechanism (see claim 4). Claims 3-8 have been amended to correct for proper dependency and to address formal matters raised by the Examiner. The application now includes claim 1 and 3-8.

In response to the objection to claims 5-8, the undersigned notes that a preliminary amendment was filed with the application (copy of the preliminary amendment filing card being attached hereto) which eliminated multiple dependency. Based on the listing of claims above, there are no multiple dependent claims being pursued in the present application. In view of this, the objection should be withdrawn.

In response to the rejection of claims 5-8 under 35 U.S.C. 112, second paragraph, the undersigned has amended the claims so that they both distinctly claim the invention and further limit the parent claims. In particular, claim 5 now requires that the actuating unit (specified in claim 1) includes a manual transmitter; claim 6 now requires the control module (specified in claim 1) is capable of transmitting an acknowledgment signal or a warning signal; claim 7 now highlights the actuating unit having either a visual display, acoustic signal arrangement or a vibrator which are controlled by the acknowledgment or warning signal transmitted from the control module; and claim 8 requires the vibrator to be in the handgrip of the walking aid. In view of the above amendments, the rejection should now be withdrawn.

Claims 1-4 have been rejected as being anticipated by U.S. Patent 5,502,375 to Stark. This rejection is traversed.

At the outset, it should be understood that what is being claimed in the

present invention is an orthopedic aid, not an exercising device. Stark, by contrast, discloses an exercising device. As discussed in column 1 of Stark, while recovery of physical injury (broken bones, muscle damage, etc.) is known to be enhanced by exercise, there is a reluctance to permit exercise to take place because the doctor is unsure how the exercise will be conducted and is not provided with feedback on the exercise. Thus, Stark contemplates a device to permit isometric exercises to be performed, where sensors are used to determine the amount of strain energy being applied by the wearer of the device in order to provide direct feedback to the wearer or to the doctor.

From Figures 1 and 2 of Stark, it can be seen that the device may consist of angled profiles 6a and 6b wherein the relative position of the two legs of the angled profile cannot be varied. Consequently, the apparatus is suited for isometric exercises wherein force is applied to the apparatus and measured by strain gauges 8a and 8b. The sensed force is transmitted from the strain gauges to a control unit 10 mounted on the exercise device.

Figures 3-10 of Stark show a mechanism for the angle between the two legs of the angled profile to be varied. For this purpose a hinge 20a and 20b is provided which allows the variation of the angle between the two legs of the angled profile. However, it should be understood that the angle, after adjustment, is fixed by fixing elements 26a and 26b. As explained in Stark at column 3, lines 25-35, the adjustable hinge is used to allow a "series of sets of isometric exercises" to "be conducted at different degrees of flexion or extension" (see column 3, lines 33-34). This is accomplished by "incrementally adjusting" the hinge to a desired position, and then conducting isometric exercises. The angle set in this way is sensed by a potentiometer arrangement 40a, 44a, and 46a, and a sensed position signal is transmitted to the control unit. According to the embodiment of Figures 11-14 of Stark, the setting of the angle using hinges 21a and 21b can be controlled electromechanically (see Figure 13). There is an actuation signal provided by the control unit 10" which is transmitted to the hinge through lead wires 43a being connected to the stator coil 45a. The stator coil is designed to attract the magnetically attractable armature 47a (see Stark at column 19, lines 39-56). However, as noted above, the Stark device is designed to enable isometric exercises to be performed at different angular positions. By definition,

when performing an isometric exercise, the leg is restrained, and the wearer of the device exerts a force against the restraining elements.

Furthermore, as can be seen from Figure 15 of Stark, the microprocessor 64 within the control unit 10" has a port 80 for asynchronous communications to a central computer, for example. However, the connection between the control unit 10" and the hinge 21 of the leg brace 6" is disclosed by wire leads only. In all embodiments described and shown in Stark, the control unit 10, 10' or 10" is always mounted directly on the orthopedic device.

Finally, the kind of data communicated through port 80 between the microprocessor 64 to devices remote from the control unit 10" is described in Stark at column 23, lines 3-35. For example, the information sensed from the strain gauges can be stored in memory, printed by printer or plotter, stored in a memory which is removable so that data can be analyzed at a remote location, or be transmitted by modem to a doctor's computer for analysis. In sharp contrast to the present invention, Stark does not include any disclosure of an actuation signal being sent by wireless transmission from an actuation unit to a control module.

With reference to claim 1 of the present application, it can be seen that an orthopedic aid is being claimed (not an exercise device like that describe in Stark) which includes two parts of an orthopedic joint (Stark contains no parts of an orthopedic joint since it relates to rehabilitation of a user's joint, not an orthopedic joint) where an actuating unit integrated into a walking aid (Stark does not show a walking aid of any kind, and the Examiner's conclusion that having a module at the top of the exercise device is the same or similar is simply incorrect) transmits actuating signals by wireless transmission (there is no showing of any kind in Stark with respect to an actuating unit sending wireless transmissions to a control module) to a control module for electromechanically actuating a locking device.

An important feature of the invention, is that the actuating signal is produced by an actuating unit remote from the orthopedic device and the control module thereon. As explained at the bottom of page 1 of the application, prior devices have required the users of orthopedic devices to grip the leg beneath or through the clothing. This can be accomplished by having the actuating unit integrated into the walking aid (as shown in Figure 2, and claimed in claim 1) which is remote from the control unit and orthopedic joint (shown in Figure 1).

Furthermore, it cannot be regarded as obvious to one of ordinary skill in the art based on the teachings of Stark to modify Stark to also transmit an actuation signal to the control module by wireless transmission. As noted above, Stark discloses a completely different purpose for the asynchronous communication through port 80. The communication of Stark is directed to the transmission of sensor signals of signals evaluated by microprocessor 64 to a doctor's computer in order to transmit said data. In an alternative embodiment, the program stored in the memories 68 and 70 of the microprocessor may be varied or modified by the doctor's computer so as to modify the exercise program for the specific patient. In complete contrast, Stark makes no suggestion whatsoever to provide the production of an actuation signal which is wirelessly transmitted to the control unit.

With respect to the Examiner's comment that "Fig. 2 seem to disclose the actuator unit is secured to the walking aid, therefore considered integrated", the undersigned notes that such a conclusion is incorrect. In contrast to "walking", Figure 2 shows to bent metal forms which wholly lack any mechanism whatsoever to allow "walking". Quite the contrary. Figure 2 of Stark shows a form where the restraining element is fixed in a single position, and the wearer performs isometric exercises by exerting a force with his leg against the restraint offered by the restraining members. This force is measured by the strain guages.

With respect to the Examiner's conclusions concerning claims 3 and 4, the undersigned also notes the conclusions are incorrect. As discussed in detail above, Stark describes a piece of equipment for allowing isometric exercises to be performed and for progress to be measured using strain guages. Stark has no disclosure and makes no suggestion whatsoever about having an actuating unit send a single to lock or unlock a hinge. As noted above, in applications where a hinge is employed, the purpose is to allow the exercises to be performed when the leg is restrained at different angles. Hence, there is no mechanism suggested in Stark particularly one that is remote from the orthopedic aid, to actuate the hinge. In sharp contrast, claims 3 and 4 require having an actuating unit integrated into a walking aid, which transmits wirelessly signals to a control module, and that the signals are then used to lock or unlock the joint. The invention overcomes the problem of requiring the user of the orthopedic device to actuate the locking

mechanism under or through his or her clothing.

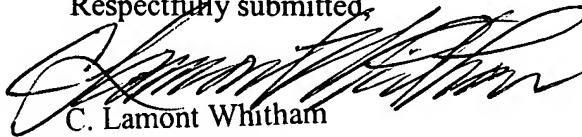
Claims 5-8 also recite further requirements that provide unobvious advantages over Stark. For example, claim 7 requires a mechanism to recognize acknowledgment or warning signals. Stark does not provide or suggest such a feature.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 1 and 3-8 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,



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REQUEST FOR EARLY NOTIFICATION OF SERIAL NUMBER

Docket No. 03100757AH In re: patent/ trademark application of
B. Lyda & M. Schilling
For Orthopedic And ortho-Locking Device

12 Pages in Specification 8 No. of claims [1 independent; dependent]
7 Sheets of Drawings Abstract Specimens
 Transmittal Sheet Fee Calculation Form
 Combined Declaration and Power of Attorney Ver. Stmt/Sm Entity Status
 Assignment Recordation Form Cover Sheet
 Information Disclosure Statement PTO-1449 and associated art (3 docs.)
 Priority Document(s) Other Paul Arnoldt
 Fees \$ Deposit Account No. (if applicable)
 filing fee; Assignment charge; Extra Claims fee)

SERIAL NO.

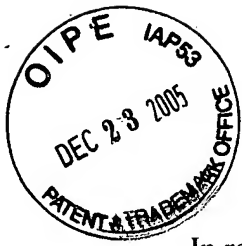
Client Matter No.

Atty: Asst.

03100757

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IN THE U.S. PATENT AND TRADEMARK OFFICE

In re Application of

K. Lidolt et al.

Serial No.: not assigned

Filed: concurrently

For: Orthopedic Aid with a Locking Device

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Art Unit: not assigned

Examiner: not assigned

Preliminary Amendment

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Prior to examination and calculation of the filing fees, please amend the above-identified application as follows:

Specification:	There are no amendments to the specification.
Claims:	The claims as presented begin on page 2.
Remarks:	The Remarks begin on page 3.

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CLAIMS:

1. (original) An orthopedic aid with two parts (15, 16) which are movable relative to one another and with a locking device for locking the two parts (15, 16) in a predetermined relative position and for unlocking the parts (15, 16) in order to permit movement of the parts (15, 16) with respect to one another, wherein the locking device can be actuated electromechanically from a control module (8, 8'), and an actuating signal can be sent by wireless transmission from an actuating unit (9', 14) to the control module (8, 8').
2. (original) The orthopedic aid as claimed in claim 1, wherein the actuating unit (9', 14) is integrated into a walking aid (10).
3. (original) The orthopedic aid as claimed in claim 2, wherein the actuating unit (9', 14) is accommodated in a handgrip (12) of the walking aid (10).
4. (original) The orthopedic aid as claimed in claim 3, wherein an actuating button (9') is arranged on a free end face of the handgrip (12).
5. (original) The orthopedic aid as claimed in claim 1, wherein the actuating unit is formed by a manual transmitter which can be fitted into a walking aid (10) and can be actuated there.
6. (currently amended) The orthopedic aid as claimed in ~~one of claims 1 through 5~~ claim 1, wherein an acknowledgement signal or warning signal can be transmitted from the control module (8, 8') to the actuating unit (9', 14).
7. (original) The orthopedic aid as claimed in claim 6, wherein the actuating unit (9', 14) has a visual and/or acoustic signal display arrangement and/or a vibrator that can be controlled by the acknowledgement signal or warning signal.
8. (original) The orthopedic aid as claimed in claim 7, wherein the vibrator is arranged in a handgrip (12) of the walking aid (10).

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Remarks

This Preliminary Amendment is presented to correct the multiple dependent claims to depend from just a single claim. No new matter has been added.

Entry of this Preliminary Amendment is respectfully solicited.

Respectfully submitted

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